



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : D04B 9/20, 9/00, B23P 15/00, B44C 1/22, C12N 5/00, 5/08, 11/14, 11/08, 15/00, C12M 1/00, 3/00, 1/34, 1/22	A1	(11) International Publication Number: WO 00/65137 (43) International Publication Date: 2 November 2000 (02.11.00)
(21) International Application Number: PCT/US00/11040 (22) International Filing Date: 24 April 2000 (24.04.00) (30) Priority Data: 60/130,802 23 April 1999 (23.04.99) US 60/147,802 9 August 1999 (09.08.99) US 60/149,269 17 August 1999 (17.08.99) US (71)(72) Applicant and Inventor: PALACIOS-BOYCE, Monica [US/US]; 81 Haynes Hill Road, Wales, MA 01081 (US). (74) Agent: KAKEFUDA, Mary; Mathews, Collins, Shepherd & Gould, P.A., Suite 306, 100 Thanet Circle, Princeton, NJ 08540 (US).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
(54) Title: MICROELECTROMECHANICAL DEVICES USEFUL FOR MANIPULATING CELLS OR EMBRYOS, KITS THEREOF, METHODS OF MAKING SAME, AND METHODS OF USE THEREOF <div data-bbox="475 1178 751 1440" data-label="Image"> </div> (57) Abstract <p>The present invention relates generally to microelectromechanical systems (MEMS) devices for the manipulation of cells or groups of cells, such as oocytes, embryos, and sperm. In particular, the present invention relates to Cell Labeling MEMS devices (2F), Microinjection MEMS devices, IntraCytoplasmic Sperm Injection ("ICSI") MEMS devices, Zona Coring MEMS devices, Enucleation MEMS devices, Enucleation/Nuclear Transfer MEMS devices, and Cytoplasmic Transfer MEMS devices. The present invention also relates to kits containing the MEMS devices of the present invention.</p>		